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EXAMINER	
YU, JAE UN	
ART UNIT	**PAPER NUMBER**
2185	

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/823,918	POWELL ET AL.	
	Examiner	Art Unit	
	Jae U. Yu	2185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The examiner acknowledges the applicant's submission of the amendment dated 9/18/06. At this point claim 34 has been amended. Thus, claims 1-40 are pending in the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1, 6, 14, 15, 26, 27 and 33 are rejected under 35 U.S.C. 103 (a) as being obvious over Antonio et al. (US 2002/0097515) in view of Takahashi (US 5,878,020).

2. As per **independent claims 1, 14 and 26**, Antonio et al. disclose, "a computer-readable medium having computer-executable instructions **["Computer Software" stored and executed on a computer, Paragraph 47]**".

"A power controlled spinning-type hard drive **[Spinning-type hard drive with power conserving mode, Paragraph 20]** for storing a second set of data"

"The power controlled spinning-type hard drive is configured for lower power consumption **[Spinning-type hard drive with power conserving mode, Paragraph 20]**"

"Wherein the first set of data **[Computer Applications, Paragraph 4]** is distinguished from the second set of data **[Multimedia data, Paragraph 4]** by at least one of characteristics of the data and characteristics of metadata"

Antonio et al. do not disclose expressly, "a high performance spinning-type hard drive for storing a first set of data".

Takahashi discloses, "in the CAV disk (e.g. a hard disk), the disk rotation speed is always constant" in column 1, at lines 45-47.

Antonio et al. and Takahashi are analogous art because they are from the same field of endeavor of hard disk accessing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Antonio et al. by including a CAV disk that rotates at a constant speed as taught by Takahashi in column 1, at lines 45-47.

The motivation for doing so would have been to perform reading/writing operations smoothly as expressly taught by Takahashi in column 1, at line 50.

Therefore, it would have been obvious to combine Takahashi with Antonio et al. for the benefit of smooth reading/writing operations to obtain the invention as specified in claims 1, 14 and 26.

3. **Claims 6, 15 and 27** disclose, "data is placed on the power controlled spinning-type hard drive **[Spinning-type hard drive with power conserving mode, Paragraph 20]** after classification of the data into one or more of the characteristics of a fully distinguished file name, creator, owner, consumer, groups **[Multimedia data "group", Paragraph 4]**, distribution lists, access control list detail, certificates, signature attributes, protocols, content resolution, encoding technique, encryption technique, key properties, internal subjects, keywords, content tags, assemblies, associations to other files, replication, caching, directory and related database extensible properties".

4. **Claim 33** discloses, "a database is divided such that a first portion of the database, having a first set of attributes **[Computer Applications, Paragraph 4, Antonio et al.]**, is stored in the high performance hard drive, and a second portion of the database, having a second set of attributes **[Multimedia data, Paragraph 4, Antonio et al.]**, is stored in the power controlled hard drive".

5. Claims 2, 9, 21 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonio et al. (US 2002/0097515) and Takahashi (US 5,878,020) as

applied to claims 1, 14 and 26 above, and further in view of Douglis et al. (US 5,493,670).

6. As per **claims 2, 9, 21 and 28**, Antonio et al. and Takahashi disclose, "the high performance drive spins continuously **[Column 1, Lines 45-47, Takahashi]**".

Antonio et al. and Takahashi do not disclose expressly, "spinning up the power controlled drive upon receipt of a service request and spinning down the power controlled drive after providing service".

Douglis et al. disclose spinning up the disk in an active mode and spinning down the disk after period of inactivity in Abstract.

Antonio et al., Takahashi and Douglis et al. are analogous art because they are from the same field of endeavor of hard disk accessing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Antonio et al. and Takahashi by spinning up the disk in an active mode and spinning down the disk after period of inactivity as taught by Douglis et al. in Abstract.

The motivation for doing so would have been to "maintain a balance between energy consumption and undesirable disk spin down" as expressly taught by Douglis et al. in Abstract.

Therefore, it would have been obvious to combine Douglis et al. with Antonio et al. for the benefit of maintaining a reasonable energy consumption level to obtain the invention as specified in claims 2, 9, 21 and 28.

7. Claims 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonio et al. (US 2002/0097515) and Takahashi (US 5,878,020) as applied to claims 1 and 14 above, and further in view of Jenny et al. (US 2003/0065743).

8. As per **claims 3 and 16**, Antonio et al. and Takahashi disclose the server system and the method recited in claims 1 and 14.

Antonio et al. and Takahashi do not disclose expressly, "the first set of data comprises data that is requested at a rate above a predetermined threshold, and the second set of data comprises data that is requested at a rate below the predetermined threshold".

Jenny et al. disclose forwarding data to a cache when the rate of requests is above a predetermined threshold in claim 8, on page 8.

Antonio et al., Takahashi and Jenny et al. are analogous art because they are from the same field of endeavor of data accessing.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Antonio et al. and Takahashi by including a cache to store data that is requested at a rate above a predetermined threshold as taught by Jenny et al. in claim 8, on page 8.

The motivation for doing so would have been faster Web page access as expressly taught by Jenny et al. in paragraph 4.

Therefore, it would have been obvious to combine Jenny et al. with Antonio et al. and Takahashi for the benefit of faster data access to obtain the invention as specified in claims 3 and 16.

9. Claims 4, 10-13, 17, 22-25, 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonio et al. (US 2002/0097515) and Takahashi (US 5,878,020) as applied to claims 1, 14 and 26 above, and further in view of Gonos (US 6,901,418).

10. As per **claims 4 and 17**, Antonio et al. and Takahashi disclose the server system and the method recited in claims 1 and 14.

Antonio et al. and Takahashi do not disclose expressly, "the first set of data comprises data that has a last accessed data after a predetermined date, and the second set of data comprises data that has a last accessed data before a predetermined date".

Gonos discloses storing data that was accessed over 30 days before the data on which the archive process is performed in separate storage in column 7, at lines 37-40.

Antonio et al., Takahashi and Gonos are analogous art because they are from the same field of endeavor of data management.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Antonio et al. and Takahashi by storing old data in separate storage as taught by Gonos in column 7, at lines 37-40.

The motivation for doing so would have been to remove data that does not need to be available for online access from online storage by archiving it to offline media as expressly taught by Gonos in column 1, at lines 9-14.

Therefore, it would have been obvious to combine Gonos with Antonio et al. and Takahashi for the benefit of managing a large amount of data efficiently to obtain the invention as specified in claims 4 and 17.

11. As per **claims 10, 22 and 29**, Antonio et al. and Takahashi disclose the server system and the method recited in claims 1, 14 and 26.

Antonio et al. and Takahashi do not disclose expressly, "a subset of the first set of data is moved to power controlled drive in accordance with a predetermined condition".

Gonos discloses storing data that was accessed over 30 days before the data on which the archive process is performed in separate storage in column 7, at lines 37-40.

Antonio et al., Takahashi and Gonos are analogous art because they are from the same field of endeavor of data management.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Antonio et al. and Takahashi by storing old data in separate storage as taught by Gonos in column 7, at lines 37-40.

The motivation for doing so would have been to remove data that does not need to be available for online access from online storage by archiving it to offline media as expressly taught by Gonos in column 1, at lines 9-14.

Therefore, it would have been obvious to combine Gonos with Antonio et al. and Takahashi for the benefit of managing a large amount of data efficiently to obtain the invention as specified in claims 10, 22 and 29.

12. **Claims 11, 23 and 30** disclose, "the predetermined condition is based on at least one of the last access date of the subset of data **[Data that was accessed over 30 days before the data on which the archive process is performed, Column 7, Lines 37-40, Gonos]**, the current date, the number of times the subset of data has been

requested in a period of time, the data size, users of the data, a filed name, the data types, and internal content".

13. As per **claims 12, 24 and 31**, Antonio et al. and Takahashi disclose the server system and the method recited in claims 1, 14 and 26.

Antonio et al. and Takahashi do not disclose expressly, "a subset of the second set of data is moved to the high performance drive in accordance with a predetermined condition".

Gonos discloses moving archived data ("a subset of the second set of data") to another data collection in column 1, at lines 30-33. The "predetermined condition" corresponds to the "receiving request to restore" (Figure 6).

Antonio et al., Takahashi and Gonos are analogous art because they are from the same field of endeavor of data management.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Antonio et al. and Takahashi by storing old data in separate storage as taught by Gonos in column 7, at lines 37-40.

The motivation for doing so would have been to remove data that does not need to be available for online access from online storage by archiving it to offline media as expressly taught by Gonos in column 1, at lines 9-14.

Therefore, it would have been obvious to combine Gonos with Antonio et al. and Takahashi for the benefit of managing a large amount of data efficiently to obtain the invention as specified in claims 12, 24 and 31.

14. **Claims 13, 25 and 32** disclose, "the predetermined condition is based on at least one of the last access date of the subset of data **[New data access request, Figure 6, Gonos]**, the current date, and the number of times the subset of data has been requested in a period of time".

15. Claims 5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonio et al. (US 2002/0097515) and Takahashi (US 5,878,020) as applied to claims 1 and 14 above and further in view of Lu et al. (US 6,684,121).

16. As per **claims 5 and 18**, Antonio et al. and Takahashi disclose the server system and the method recited in claims 1 and 14.

Antonio et al. and Takahashi do not disclose expressly, "the first set of data comprises data that has one of a creation date and a modification date after a predetermined date, and the second set of data comprises data that has one of a creation date and a modification data before the predetermined date".

Lu et al. disclose storing information that was created before the predetermined date in a remote archival storage in column 11, at lines 26-29.

Antonio et al., Takahashi and Lu et al. are analogous art because they are from the same field of endeavor of data management.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Antonio et al. and Takahashi by storing data that was created before the predetermined data in a remote archival storage as taught by Lu et al. in column 11, at lines 26-29.

The motivation for doing so would have been to prevent the information stored in databases from exceeding the storage space of the individual storage devices as expressly taught by Lu et al. in column 11, at lines 35-39.

Therefore, it would have been obvious to combine Lu et al. with Antonio et al. and Takahashi for the benefit of preventing low storage space to obtain the invention as specified in claims 5 and 18.

17. Claims 7, 8, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonio et al. (US 2002/0097515) and Takahashi (US 5,878,020) as applied to claims 1 and 14 above, and further in view of Malcolm et al. (US 2002/0004917).

18. As per **claims 7 and 19**, Antonio et al. and Takahashi disclose, "the second set of data comprise audio or video file **[Multimedia data, Paragraph 4, Antonio et al.]**".

Antonio et al. and Takahashi do not disclose expressly, "the first set of data comprise audio or video file".

Malcolm et al. disclose recording "streaming audio or streaming video information" in the cache in paragraph 46.

Antonio et al., Takahashi and Malcolm et al. are analogous art because they are from the same filed of endeavor of data access control.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Antonio et al. and Takahashi by recording streaming audio or video in a cache as taught by Malcolm et al. in paragraph 46.

The motivation for doing so would have been to allow delayed use of the cached data by a plurality of client devices as expressly taught by Malcolm et al. in paragraph 46.

Therefore, it would have been obvious to combine Malcolm et al. with Antonio et al. and Takahashi for the benefit of delayed use of data among devices to obtain the invention as specified in claims 7 and 19.

19. As per **claims 8 and 20**, Antonio et al. and Takahashi disclose the server system and the method recited in claims 1 and 14.

Antonio et al. and Takahashi do not disclose expressly, "the first set of data is comprised of replicas of World Wide Web documents not cached on high performance storage by other World Wide Web servers and the second set of data is comprised of World Wide Web documents which are cached on high performance storage by other World Wide Web servers".

Malcolm et al. disclose recording "streaming audio or streaming video information" in the cache in paragraph 46, wherein the network is the Internet (Paragraph 20) and the streaming audio and video correspond to the "World Wide Web documents" from the claim. The cached data ("The first set of data") is for delayed use by a plurality of client devices and stored in the client devices ("The second set of data").

Antonio et al., Takahashi and Malcolm et al. are analogous art because they are from the same filed of endeavor of data access control.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Antonio et al. and Takahashi by recording streaming audio or video in a cache as taught by Malcolm et al. in paragraph 46.

The motivation for doing so would have been to allow delayed use of the cached data by a plurality of client devices as expressly taught by Malcolm et al. in paragraph 46.

Therefore, it would have been obvious to combine Malcolm et al. with Antonio et al. and Takahashi for the benefit of delayed use of data among devices to obtain the invention as specified in claims 8 and 20.

20. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Antonio et al. (US 2002/0097515) and Takahashi (US 5,878,020) as applied to claim 1 above, and further in view of Hudson et al. (US 2002/0059440).

21. As per **claim 34**, Antonio et al. and Takahashi disclose, "the first set of attributes" and "the second set of attributes" (Please refer to the claim 33 rejection above).

Antonio et al. and Takahashi do not disclose expressly, "meta-directives".

Hudson et al. discloses, "meta-directives" in paragraphs 40 and 41.

Antonio et al., Takahashi and Hudson et al. are analogous art because they are from the same field of endeavor of accessing storage elements.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Antonio et al. and Takahashi by including meta-directives as taught by Hudson et al. in paragraphs 40 and 41.

The motivation for doing so would have been to specify the logical inclusion of additional control files as expressly taught by Hudson et al. in paragraph 41.

Therefore, it would have been obvious to combine Hudson et al. with Antonio et al. and Takahashi for the benefit of specifying the logical inclusion of additional control files to obtain the invention as specified in claim 34.

22. Claims 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonio et al. (US 2002/0097515) and Takahashi (US 5,878,020) as applied to claim 1 above, and further in view of Wang et al. (US 6,834,326).

23. As per **claims 35 and 36**, Antonio et al. and Takahashi disclose, "power management directives **[Spinning disk at power conserving speed, Abstract, Antonio et al.]** control the storage of data across multiple storage devices".

Antonio et al. and Takahashi do not disclose expressly, one of "a remote storage area network (SAN)" and "a network attached storage (NAS)".

Wang et al. disclose, "a network-attached storage" in column 1, at line 30.

Antonio et al., Takahashi and Wang et al. are analogous art because they are from the same field of endeavor of storage devices.

At the time of the invention it would have been obvious to combine Wang et al. with Antonio et al. and Takahashi by including "a network-attached storage" as taught by Wang et al. in column 1, at line 30.

The motivation for doing so would have been fast, scalable and high-bandwidth data access as expressly taught by Wang et al. in column 1, at lines 30-31.

Therefore, it would have been obvious to combine Wang et al. with Antonio et al. and Takahashi for the benefit of fast, scalable and high-bandwidth data access to obtain the invention as specified in claims 35 and 36.

24. As per **claim 37**, Antonio et al. and Takashi discloses, "power management directives are used to control power management events **[Spinning disk at power conserving speed, Abstract, Antonio et al.]** in storage devices".

Antonio et al. and Takahashi do not disclose expressly, one of "a remote storage area network (SAN)" and "a network attached storage (NAS)".

Wang et al. disclose, "a network-attached storage" in column 1, at line 30.

Antonio et al., Takahashi and Wang et al. are analogous art because they are from the same field of endeavor of storage devices.

At the time of the invention it would have been obvious to combine Wang et al. with Antonio et al. and Takahashi by including "a network-attached storage" as taught by Wang et al. in column 1, at line 30.

The motivation for doing so would have been fast, scalable and high-bandwidth data access as expressly taught by Wang et al. in column 1, at lines 30-31.

Therefore, it would have been obvious to combine Wang et al. with Antonio et al. and Takahashi for the benefit of fast, scalable and high-bandwidth data access to obtain the invention as specified in claims 37.

25. Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonio et al. (US 2002/0097515) and Takahashi (US 5,878,020) as applied to claim 1 above, and further in view of Yagawa (US 2006/0015946).

26. As per **claim 38**, Antonio et al. and Takahashi disclose the server system recited in claim 1.

Antonio et al. and Takahashi do not disclose expressly, "a redundant array of independent disks (RAID)".

Yagawa discloses, "RAID" in paragraph 44.

Antonio et al., Takahashi and Yagawa are analogous art because they are from the same field of endeavor of storage accessing.

At the time of the invention it would have been obvious to modify Antonio et al. and Takahashi by including "RAID" as taught by Yagawa in paragraph 44.

The motivation for doing so would have been to improve reliability of the stored data as expressly taught by Yagawa in paragraph 44.

Therefore, it would have been obvious to combine Yagawa with Antonio et al. and Takahashi for the benefit of data reliability to obtain the invention as specified in claim 38.

27. **Claim 39** discloses, "the second set of data is distributed across the redundant array using a stripping algorithm **[Paragraph 47, Yagawa]**".

28. **Claim 40** discloses, "the stripping algorithm reduces the power up impact to a smaller set of drives upon data access operations". **Yagawa discloses "the stripping algorithm" that inherently reduces the power up impact to a smaller set of drives because the data is spread across multiple power-controlled disks.**

Response to Amendment

In view of the applicant's amendment regarding claim 34, the 35 USC 112 rejection is withdrawn.

Arguments Concerning Prior Art Rejections

1st Point of Argument

Regarding claims 1, 14 and 26, the applicant argues that the combination of Antonio and Takahashi do not disclose, "a high performance spinning-type hard drive for storing a first set of data" and "a power controlled spinning-type hard drive for storing a second set of data". However, Antonio expressly discloses a spinning-type hard drive with power conserving mode for data storage ("a second set of data") in paragraph 20, and Takahashi disclose a hard disk with constant rotation speed for data storage ("a firs set of data") in column 1, at lines 45-47.

2nd Point of Argument

Regarding claims 1, 14 and 26, the applicant further argues that the combination of Antonio and Takahashi is inoperable, because Takahashi discloses a hard drive with a constant rotation speed but Antonio disclose a hard drive that operates at different speeds for write operation and read operation. However, Antonio and Takahashi can be combined so multimedia data (Paragraph 4, Antonio) is stored in the "power conserved drive" and computer applications (Paragraph 4, Antonio) are stored in the "constant speed drive".

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

A. Claims Rejected in the Application

Per the instant office action, claims 1-40 have received a second action on the merits and are subject of a second action final.

B. Direction of Future Correspondences

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jae Un Yu who is normally available from 9:00 A.M. to 5:30 P.M. Monday thru Friday and can be reached at the following telephone number: (571) 272-1133.

If attempts to reach the above noted examiner by telephone are unsuccessful, the Examiner's supervisor, Sanjiv Shah, can be reached at the following telephone number: (571) 272-4098.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11/9/2006

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